

Amendments to the Claims

The following listing of claims replaces all prior versions of the claims and all prior listings of the claims in the present application.

Claims 1-16 (canceled)

Claim 17 (new): A tire for a vehicle wheel, comprising:

a carcass structure;

a belt structure applied to the carcass structure at a circumferentially-outer position of the carcass structure;

a tread band circumferentially superposed on the belt structure; and

sidewalls laterally applied to opposite sides of the carcass structure;

wherein the carcass structure comprises:

at least one carcass ply; and

a pair of annular reinforcing structures;

wherein the at least one carcass ply comprises a first series and a second series of strip segments consecutively arranged along a circumferential development of the carcass structure,

wherein each strip segment extends according to a substantially U-shaped conformation,

wherein each strip segment comprises at least two filiform elements, positioned longitudinally and parallel to each other, at least partially coated by at least one layer of elastomer material,

wherein each annular reinforcing structure is engaged in proximity to a respective inner circumferential edge of the at least one carcass ply,

wherein each annular reinforcing structure comprises:

at least one primary portion; and

at least one additional portion;

wherein the at least one primary portion comprises an axially-inner side oriented toward terminal edges of the first series of strip segments,

wherein the at least one primary portion comprises an axially-outer side oriented toward terminal edges of the second series of strip segments,

wherein the at least one primary portion comprises:

a first circumferentially-inextensible annular insert;

a filling body; and

at least one second circumferentially-inextensible annular insert;

wherein the first annular insert is substantially annulus-shaped,

wherein the first annular insert is positioned coaxially to the carcass structure, adjacent to the respective inner circumferential edge of the at least one carcass ply,

wherein the first annular insert is formed by at least one elongated element extending in concentric turns,

wherein the filling body is made of elastomeric material,

wherein the filling body is joined to the first annular insert,

wherein the at least one second annular insert is substantially annulus-shaped,

wherein the at least one second annular insert is positioned coaxially to the carcass structure, axially side-by-side to the filling body and laterally opposite relative to the first annular insert,

wherein the at least one second annular insert is formed by at least one elongated element extending in concentric turns,

wherein the at least one additional portion is positioned against the terminal edges of the second series of strip segments on a side opposite to the at least one primary portion,

wherein the at least one additional portion comprises at least one third circumferentially-inextensible annular insert,

wherein the at least one third annular insert is substantially annulus-shaped,

wherein the at least one third annular insert is positioned coaxially to the carcass structure, adjacent to the respective inner circumferential edge of the at least one carcass ply, and

wherein the at least one third annular insert is formed by at least one elongated element extending in concentric turns.

Claim 18 (new): The tyre of claim 17, further comprising a sealing layer disposed on an inner wall of the carcass structure.

Claim 19 (new): The tyre of claim 17, wherein the first series and the second series of strip segments are arranged in mutually-alternated sequence along the circumferential development of the carcass structure.

Claim 20 (new): The tyre of claim 19, wherein each strip segment comprises two lateral portions and a crown portion,

wherein the lateral portions extend substantially toward a geometric axis of the carcass structure in positions mutually-spaced-apart in an axial direction,

wherein the crown portion extends in a radially-outer position between the lateral portions, and

wherein the crown portions of the first series and the second series of strip segments are set mutually side-by-side along the circumferential development of the carcass structure.

Claim 21 (new): The tyre of claim 17, wherein the at least one second annular insert and the at least one third annular insert comprise a lesser radial extension than a radial extension of the first annular insert.

Claim 22 (new): The tyre of claim 17, wherein the at least one third annular insert comprises a radial extension greater than or equal to one-third and less than or equal to two-thirds of a radial extension of the first annular insert.

Claim 23 (new): The tyre of claim 17, wherein the at least one second annular insert comprises a radial extension greater than or equal to one-third and less than or equal to two-thirds of a radial extension of the first annular insert.

Claim 24 (new): The tyre of claim 17, further comprising an auxiliary filling body;
wherein the auxiliary filling body is made of elastomeric material,

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wherein the auxiliary filling body is disposed in an axially-outer position against the at least one carcass ply, and

wherein the auxiliary filling body extends radially away from the at least one third annular insert.

Claim 25 (new): The tyre of claim 24, wherein a hardness value of the auxiliary filling body is substantially equal to a hardness value of the filling body.

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